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| EXAMINER |
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TAKELE, MESEKER

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| ART UNIT | PAPER NUMBER |
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2109

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05/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/799,030

Applicant(s)

THOMAS ET AL.

Examiner

Meseker Takele

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-39 is/are pending in the application.
- 4a) Of the above claim(s) 1-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

This office action is in response to the Amendment filed May 3, 2007 to Claim 39.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 32- 35 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Moezzi (U.S. Patent Number 5,850,352).

As to claim 32, Moezzi discloses, apparatus for tracking selected objects in a scene comprising (example, tracking, see, Figure 5, column, 32 line, 55) one or more cameras arranged to obtain one or more real scene images (see, Figure 5) image processing means for identifying said selected objects in said one or more real scene images (example, video data analyzer means, see, column, 20 lines, 23-25) means for providing an estimate of the position of said one or more selected objects based on their position in the one or more real scene images (see, column, 26 line, 20) a user interface adapted to allow an operator to **view said estimate of the position of selected objects in a real scene image** said user interface including input means to allow an operator to **modify said estimate** (example user/viewer interface, see column 20, lines 30-34, ).

**Moezzi not only allows a user/viewer to view certain views from the scene but also to maintain and manipulate information about position, which is same, as modifying. (example, to maintain and manipulate information about position of static and dynamic objects in the environment, a representation must be chosen which facilitates maintenance of object positional information as well as supporting more sophisticated questions about object behavior, see, column, 27 lines, 40-48 and example, position estimate, Figure 2).**

As to claim 33, Moezzi discloses, wherein real scene images are obtained from a plurality of cameras having different viewpoints (see Figure 10a-10h).

As to claim 34, Moezzi discloses, wherein more than one real scene images from different viewpoints are displayed simultaneously (example, display, see, column, 15 line, 31 Figure 10a-10h) and wherein said estimate is indicated graphically on more than one real scene image (see figure 9a-9c).

As to claim 35, Moezzi discloses, arranged to allow an operator to select those cameras from which real scene images (example, selection of real camera or image, see, column, 1 line, 41) are used to provide said estimate of location (example different location, see, column, 33, line 48).

**As to claim 39, Moezzi discloses apparatus for tracking selected objects in a scene (example tracking objects of potential interest and their locations in the scene, see, Figure 5, column, 32 line 55), comprising:**

**one or more cameras arranged to obtain one or more real scene images (see, Figure 5) an image processor (example, video processing, computerized**

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video processing, column, 9 line, 15 and abstract) for identifying said selected objects in said one or more real scene images (example, selected object, see column, 1 line, 39 example, detect objects or identify event, see, column, 26 lines, 15-16, and Figure 2); a position estimator for providing an estimate of position of said one or more selected objects based on their position in the one or more real scene images (example, position estimation, see, Figure 2);

and a user interface adapted to allow an operator to view said estimate of the position of selected objects in a real scene image, said user interface including a user input device to allow an operator to modify said estimate (example user/viewer interface, see, column, 20 lines, 30-34).

Moezzi further discloses (example, to maintain and manipulate information about position of static and dynamic objects in the environment, a representation must be chosen which facilitates maintenance of object positional information as well as supporting more sophisticated questions about object behavior, see, column, 27 lines, 40-48).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moezzi et al. (US Patent No. 5,850,352) as applied to claim 32 above, in view of Sharir et al. (US Patent. No. 6,380,933).

As to claim 36, Moezzi does not disclose, arranged to allow an operator to indicate the position of one or more selected objects in one or more real scene images.

Sharir from the same field of endeavor discloses arranged to allow an operator to indicate the position of one or more selected objects in one or more real scene images (see, column 2, line, 6).

It would have been obvious to one of ordinary skilled in the art to have modified Moezzi's Immersive video at the time the invention was made with arranged to allow an operator to indicate the position of one or more selected objects in one or more real scene images (example, manipulation means for enabling an operator to select a desired angle of view of the plurality of players, see, column, 2 line, 6) as presented by Sharir.

The motivation to combine these two references will provide an interactive system enabling manipulation of the match or event by the viewer.

As to claim 37, Sharir discloses, arranged to allow an operator to indicate the position of one or more selected objects in a first real scene image, and to display an estimate of the corresponding position of said one or more objects in at least a second real scene image (see, column, 1 line, 59).

As to claim 38, Sharir discloses, including means for estimating the trajectory of a selected object based on an indicated position of the object at a first instant, an indicated position of the object at a second instant, the time elapsed between said two instants, and physical assumptions of the object's trajectory (see, column, 2 line, 3 and Figure 6a-6d).

### ***Conclusion***

### ***Response to Arguments***

7. Applicant's arguments filed May 3, 2007 have been fully considered but they are not persuasive.

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Applicant argue that Moezzi does not disclose a user interface to allow a user to both view the estimated position of the selected objects and modify the estimated position.

Examiner disagrees with the applicant and shows that Moezzi not only allows a user/viewer to view certain views from the scene but also to maintain and manipulate information about position, which is equivalent, as modifying. (example, to maintain and manipulate information about position of static and dynamic objects in the environment, a representation must be chosen which facilitates maintenance of object positional information as well as supporting more sophisticated questions about object behavior, see, column, 27 lines, 40-48 and example, position estimate, see, Figure 2).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meseker Takele whose telephone number is (571) 270-1653. The examiner can normally be reached on Monday - Friday 7:30AM- 5:00PM est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SUPERVISORY PATENT EXAMINER